

IN THE CLAIMS:

1. (currently amended) Method for producing thermochemical fibers from wood chips ~~using at least two refining stages formed of~~ ~~[[a]] independent refiners or combined refining zones in a single refiner, for producing fiber mass from wood chips,~~ comprising at least the steps of

- providing at least two refining stages, each refining stage including a rotor and a stator,
 - feeding at least wood chips and ~~water~~ steam into ~~[[a]] the~~ first refining ~~[[3]]~~ stage,
 - ~~using the first refining (3) stage for defibrating the wood chips to fibers in the first refining stage to obtain a flow of steam and once refined fibers,~~
 - removing ~~[[a]] the~~ flow of steam and once refined fibers from the first refining ~~[[3]]~~ stage,
 - feeding the flow of refined fibers and steam into ~~[[a]] the~~ second refining ~~[[7]]~~ stage,
 - refining the once refined fibers in the second refining stage to produce a flow of twice refined fibers and steam, and
 - removing the flow of twice refined fibers and steam from the ~~following refiner (7) second refining [[7]] stage;~~
- said method being characterized by

- feeding the flow of ~~mixture of~~ once refined fibers ~~that are refined~~ and steam forward ~~at least~~ in the first refining ~~[[(3)]]~~ stage by rotary energy of ~~[[a]]~~ the rotor of the ~~refiner~~ refining stage so that no essential back-flow of the steam occurs,
- transferring the total flow of the fiber once refined fibers and steam ~~mixture exiting~~ exiting the first ~~refiner~~ refining stage into the second ~~refiner~~ refining stage without separating steam from the flow, and
- feeding the ~~mixture~~ flow of once refined fibers and steam through a flow path having a cross section that is constant or decreasing between at least the exit of the first refining ~~[[(3)]]~~ stage and infeed of the second refining stage.

2. (currently amended) Method according to the claim 1, characterized in that the steam fed into the first ~~refiner~~ refining stage and formed therein forms the transport medium of the mass that is refined.

3. (currently amended) Method according to claim 1 characterized in that ~~[[the]]~~ a residence time of the fibers in the

process is less than 50% of ~~the comparable~~ a residence time
required in processes using a cyclone between refiner stages.

4. (currently amended) Method according to claim 1,
~~characterized of further comprising~~ separating steam from the twice
refined fibers after ~~second refiner (7)~~ the second refining stage
and feeding at least part of that steam back to the first ~~refiner~~
~~(3)~~ refining stage.

5. (canceled)

6. (currently amended) Method according to claim 1,
~~characterized of further comprising~~ separating steam from the twice
refined fibers after ~~second refiner (7)~~ the second refining stage
and feeding that steam back to the first ~~refiner (3)~~ refining
stage.

7. (currently amended) Method according to claim 1,
~~characterized of further comprising~~ keeping the medium velocity of
the ~~mass~~ flow of once refined fibers and steam constant or
preferably accelerating said flow between at least the exit of the

first ~~refiner (3)~~ refining stage and infeed of the second ~~refiner~~
refining stage.

8. (previously presented) Method according to claim 1,
characterized in that steam is separated only once from the
process.

9. (withdrawn) Apparatus for producing fiber mass from
wood chips, comprising:

- at least two refining stages formed by separate refiners or
refining stages in a single refiner,
- means (4) for feeding wood chips into the first refining (3)
stage, and
- means for transferring the mass exiting the first refining
(3) stage into the second refining stage (7),

characterized in that the cross section of the flow path between at
least the exit of the first refining (3) stage and infeed of the
second refining stage is constant or preferably decreasing.

10. (withdrawn) Apparatus according to the claim 9,
characterized of a cyclone (10) for separating steam from mass flow
exiting the second refiner.

11. (withdrawn) Apparatus according to the claim 10, characterized of a return stem line (12) for feeding at least some of the steam separated from the mass flow into the first refiner (3).

12. (withdrawn) Apparatus according to the claim 9, characterized in that the refining stages are formed by two separate refiners.

13. (withdrawn) Apparatus according to the claim 9, characterized in that the refining stages are formed by a single two-staged refiner.